

PROCEEDINGS OF THE  
ROYAL ENTOMOLOGICAL SOCIETY  
OF LONDON

**SERIES C. JOURNAL OF MEETINGS**

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ORDINARY MEETING.

WEDNESDAY, 15TH JANUARY, 1958, at 5.30 p.m.

**AGENDA.**

1. Confirmation of the Proceedings of the Ordinary Meeting held on 4th December, 1957.
2. Recommendations of candidates for Fellowship. First reading.
3. Recommendations of candidates for Fellowship. Second reading.
4. Announcement of election of new Fellows.
5. Additions to the Library (see p. 54).
6. Nomination of Officers and Council for 1958. Second reading.
7. Admission of Fellows.
8. Exhibits.

**Fellows are particularly requested to bring suitable exhibits to the Meeting even though it may not be possible to announce their intention to do so beforehand.**

*Note.*—To avoid congestion in the Library and to enable exhibits to be displayed to greater advantage, a table has been placed in the meeting-room for this purpose. Fellows are asked to place their exhibits on this table, with a suitable explanatory note, as soon as possible on the afternoon of the meeting, so that they are available for inspection there before the meeting opens.

9. Communications.

**1. Mr. G. G. E. Scudder.**

The ovipositor of the Thysanura and its interpretation in the higher insect orders.

[ABSTRACT].

Examination of the skeletal parts and dissection of the musculature of the ovipositor derived from abdominal segments VIII and IX in *Petrobius* and

*Lepisma* show that there is a fundamental difference between the two. In *Lepisma* there is a triangular-shaped sclerite (the gonangulum) which is fused to the base of the first gonapophysis and articulates with the ninth tergum and the second gonocoxa. This sclerite is absent as such in *Petrobius*. A comparative study of the musculature shows that the gonangulum in *Lepisma* is homologous with the antero-dorsal corner of the second gonocoxa in *Petrobius*.

The study of the abdominal musculature of *Petrobius* supports the claim of Gustafson that the gonapophysis is homologous with the eversible sacs of the pregenital segments.

Snodgrass based his interpretation of the ovipositor of the higher insect orders on the condition in *Petrobius*. A more satisfactory interpretation is obtained if the structure in *Lepisma* is taken as the archaic type from which the pterygote ovipositor was derived.

## 2. Professor G. C. Varley.

Ecological differences between closely allied species of Lepidoptera on oak.

[ABSTRACT].

If evolution is by natural selection, less favourable genes must be eliminated by more favourable genes. Similarly it has been argued that if closely allied species compete with one another in the same environment, one should eliminate the other. Where closely allied species coexist in the same community, they must therefore avoid competition.

A survey of insects feeding on oaks at Wytham, Berks., has shown a number of groups of closely allied species amongst the Lepidoptera, all of which feed together. However, since the trees are seldom defoliated, the caterpillars are not often competing for food, and their population densities must be otherwise controlled. Closely allied species show the following kinds of differences in their ecological relationships :

- (a) different adult emergence times (e.g. 4 spp. of *Erannis*) ;
- (b) different larval feeding periods (e.g. 2 spp. of *Biston*) ;
- (c) different larval food range (e.g. 2 spp. of *Diurnea*) ;
- (d) different specific parasites (e.g. 2 spp. of *Orthosia*).

## 3. Mr. L. R. Cole.

The biology of four species of Ichneumonidae parasitic on *Tortrix viridana* L.

[ABSTRACT].

Of the parasites emerging in July from pupae of *T. viridana* in Wytham Wood, Berks., *Phaeogenes invisor* Thunb. is the most frequent and has rarely been recorded from any other host. *Itoplectis maculator* Fab. is met with less often but is known to parasitize a wide range of hosts. In each of these species there is a single generation and the adult females remain inactive for most of the year. Some are killed by a Braconid larva which emerges from the abdomen in autumn.

*Apechthis rufata* Gmel. and *A. resinator* Thunb. are less frequent. They attack the pupae of many species of Lepidoptera but published records are often unreliable on account of the great similarity of the species. There are at least two generations in the year. In autumn *A. rufata* has been observed in the field attacking pupae of *Diurnea fagella* Schiff., and *A. resinator* those of *Pararge*



*aegeria* L. Individuals of the spring generation emerged from these hosts after passing the winter as full-grown larvae.

The ecological relationships between these insects, as far as they are known at present, are briefly discussed.

#### 4. Mr. A. J. Pontin.

An investigation of the interaction between *Lasius flavus* (F.) and *L. niger* (L.).

[ABSTRACT].

Colonies of these two species of ants were mapped, at Wytham, Berks., and in 1956 and 1957 their alate queens were collected. This is a new method which takes into consideration the large range of colony size. It has the advantage that colonies are left intact for successive years of study. Where *L. niger* is absent the number of queens produced by *L. flavus* colonies is limited by territory size, i.e. by intra-specific competition. The results fitted the equation :

$$(\sqrt{N_1} + \sqrt{N_2}) = KD,$$

where  $N_1$  and  $N_2$  are the numbers of queens produced in one year by neighbouring pairs of colonies and  $D$  is their distance apart.  $K$  is a constant.

*L. flavus* tended aphids and took prey in an entirely underground territory. *L. niger* had large territories above the surface which extended over many *L. flavus* nests but there were no suitable aphids on the aerial parts of plants. The same species of underground aphids and a similar range of underground prey were utilised by both ants. The *L. flavus* colonies in the areas where *L. niger* had underground galleries had a much lower queen production than elsewhere, using the above method of analysis.

Firm claims are based on tests significant at the 1 per cent. level.

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TEA will be served in the Library before the meeting.

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### NOTICES.

#### Forthcoming Ordinary Meetings.

Preliminary notice is given below of the principal papers to be read at the next two Ordinary meetings.

5th February, 1958.

#### Annual Meeting.

5th March, 1958.

**Dr. C. A. Clarke** and **Dr. P. M. Sheppard**.—Genetics and race-crosses in *Papilio dardanus*.

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PROCEEDINGS OF THE ORDINARY MEETING HELD ON 4TH DECEMBER, 1957.

PROFESSOR O. W. RICHARDS, President, in the Chair.

Present, 53 Fellows and 14 Visitors.

Before the meeting formally opened, the President announced the recent death of Mr. C. T. Gimingham, a member of the Council, who had been elected in 1919 and who was Vice-President in 1950.

The President extended a welcome to Dr. and Mrs. L. P. Brower of New Jersey, Miss B. Holloway of Wellington, New Zealand, and Dr. G. Soika of Venice.

The minutes of the Ordinary Meeting held on 6th November were confirmed and signed by the President.

The names of the following candidates for election were read for the first time : Mr. David Ross Gifford ; and Miss Janet Petersen.

For the second time (taken as read) : Mr. Robert Fairclough, D.F.C. ; Mr. Peter Hamilton Giles ; Professor V. J. Isaac Grant, M.A., B.Sc. ; Mr. Peter Harris ; Mr. Timothy Armitage Potts ; and Dr. Bryan John Raymond Taylor.

The Secretary read the names of the following newly elected Fellows of the Society : Mr. David Seymour Brown, 36 Hamboro Gardens, Leigh-on-Sea, Essex ; Mr. Stephen James Curry, M.A., c/o Forest Department, P.O. Box 30027, Nairobi, Kenya ; Mr. Robin Edwards, 153 Langley Road, Langley, Slough, Bucks. ; Dr. Frederick Rudolf Hollins, M.B., B.Ch., Provincial Medical Office, P.O. Box 110, Morogoro, Tanganyika Territory ; Mr. Herbert Henry Huxley, M.A., 3 Lindon Road, Manchester, 16 ; Mr. Handel Keate, 300 Brooklands Road, Wythenshawe, Manchester, 23 ; Mr. Joseph William Newbold, 2 Walker Street, Cocker-mouth, Cumberland ; Professor Robert Omar Rilett, B.A., M.A., Ph.D., Biology Department, University of Buffalo, Buffalo, N.Y., U.S.A. ; Mr. Michael Peter Rushton, B.Sc., 7 Lansdowne Crescent, Gosforth, Newcastle-upon-Tyne, 3 ; Mr. Hanuman Prasad Saxena, Senior Research Assistant, Section of the Entomologist to the Government of United Provinces, Kanpur, U.P., India ; Mr. Kiril Sidor, c/o Virus Research Unit, Molteno Institute, Downing Street, Cambridge ; Mr. Alexander Reginald Tindall, B.Sc., 6 Weatherley Drive, Marple, Cheshire ; Mr. William Nelson Yule, B.Sc., c/o International Red Locust Service, P.O. Box 37, Abercorn, N. Rhodesia ; and Dr. Mohamed Abdel Aziz Zaher, M.Sc., Ph.D., Faculty of Agriculture, University of Cairo, Cairo, Egypt.

Thanks were voted to donors of gifts to the Library since the last meeting.

The Secretary read for the first time the following names of Fellows nominated by the Council to serve as Officers and Council for 1958 :

*President* : Professor O. W. Richards, M.A., D.Sc.

*Treasurer* : Dr. N. E. Hickin.

*Secretary* : Mr. Paul Freeman, M.Sc.

*Editor* : Mr. W. H. Potts, M.A.

*Other Members of Council :*

Mr. E. B. Britton, M.Sc.

Dr. C. G. Butler, M.A.

Mr. W. V. Harris, M.Sc.

Dr. L. G. Higgins, M.A., F.R.C.S.

Dr. H. E. Hinton, Sc.D.

Dr. B. M. Hobby, M.A.

Mr. T. G. Howarth, B.E.M.

Dr. J. S. Kennedy, D.Sc.

Dr. A. M. Masee, O.B.E., D.Sc.

Mr. E. O. Pearson, B.A.

Mr. H. L. G. Stroyan, M.A.

Dr. N. Waloff.

Dr. C. B. Williams, M.A., D.Sc., F.R.S.



Alternative nominations, supported by four properly qualified Fellows of the Society, should reach the Secretary before the meeting to be held on 15th January, 1958.

Mr. W. N. Beesley, Mr. J. C. Hartley, Professor R. O. Rilett and Mr. B. J. Selman signed the Obligation Book and were admitted Fellows of the Society.

**Mr. G. G. E. Scudder** exhibited one male and one female specimen of *Zygimus nigriceps* (Fallén) (Hem., Miridae), a genus and species new to the British list. The specimens were from the collections of the Department of Zoology, Glasgow University and bear the data—Nethy Bridge, 10.vii.1911 (*J. J. F. X. King*). The species occurs on *Pinus sylvestris* L. in Europe and has a Boreal (Alpine) distribution, being known from Norway, Sweden and European U.S.S.R., and is very rare.

**The President** made a communication on the prey of the solitary wasp, *Ectemnius (Clytochrysus) zónatus* (Panzer) (Sphecidae, Crabroninae).

On 29th July, 1957, a female wasp, later found to belong to this species, was seen to enter a hole in a baulk of timber supporting an abandoned pump, on the quarry near Arch Bay, Alderney, C.I. The wood was rotten and some of it was pulled away, revealing a number of cells containing Syrphid flies. They evidently belonged to more than one nest and while they were being collected another wasp approached, carrying a male *Scaeva pyrastris* (L.). The material collected consisted of the following further Syrphidae:—

*S. pyrastris* (L.) 6 ♂, 10 ♀; *Syrphus balteatus* (Deg.) 8 ♂, 7 ♀; *S. auricollis* Mg. 2 ♂; var. *maculicornis* (Zett.) 7 ♂, 5 ♀; *S. corollae* (Fab.) 9 ♂.

The summary of previous records by Leclercq (1954, *Monographie ... des Hyménoptères Crabroniens*, Liege : 322) shows that the prey are mostly Syrphids, especially *S. pyrastris*, with one record of Calliphorids (*Sarcophaga*).

**Baron C. G. M. de Worms** exhibited a melanic variety of the Silver-Y moth, *Plusia gamma* L., having the ground colour of the fore-wings a glossy black with the Y-mark very prominent. This type of aberration is very rare in this species. The specimen was taken at Woking on 30th October, 1957.

The President said that this was of interest because melanic forms were usually confined to industrial areas and would not be expected in migratory species.

**Dr. R. C. Rainey** made a communication on the movement of an escaped Red Locust in London.

A marked, six-week-old adult female Red Locust (*Nomadacris septemfasciata* Serville), from a stock which had been maintained in London through 8–10 generations during the past three years, escaped from the Anti-Locust Research Centre in Kensington on 6th August, 1957, and was caught, alive, by Mr. W. Bell in his garden at 41, Richmond Road, New Barnet, 10 miles to the north of the centre, on 29th October.

The weather conditions which the locust had thus survived were illustrated by data kindly supplied by the Meteorological Office. Air temperatures, recorded at Camden Square, ranged from 77° to 38° F. over this period, and were thus not so very different from the range of about 85° to 45° which is experienced during the cool season in the Rukwa valley outbreak areas of this species in Tanganyika. Field Observations in these areas (1957, Rainey, Waloff and Burnett, *Anti-Locust Bulletin* 26) have also shown that a body temperature above about 75° is neces-

sary for sustained flight by *Nomadacris*. An air temperature of 75° or more was reached at Camden Square on 6th, 7th and 8th August (but not subsequently), at times when winds, recorded at Kingsway, were variable and, for some hours, very light (2-3 m.p.h.). Red Locusts are capable of an airspeed of 11 m.p.h. in the field; and it is therefore possible that this individual may have reached New Barnet from Kensington by flight.

Dr. Rainey said, in reply to an enquiry by Mr. Leston, that the captured specimen was handed to the Zoological Society who notified the Centre.

The President mentioned that a live specimen of *Locusta migratoria migratorioides* R. and F. found at the end of August two years ago at Silwood Park was found to have been released as a hopper, an instance that it was possible for this insect to grow to adult form in the English climate.

Dr. J. Macleod said that, while he did not doubt the evidence in these cases, he could not help feeling that the background of such captures should always be carefully investigated.

The President agreed, pointing out that a specimen of the same *Locusta* had been recovered from the dump at Hendon, where the waste from the British Museum (Natural History) was taken.

**Mr. D. S. Saunders** exhibited specimens of *Syntomosphyrum glossinae* Wtstn. (Hym., Eulophidae), chalcid parasites of tsetse fly puparia.

In one tube, the females had the funicle and the club segments of their antennae uniformly fuscous in colour. These specimens were recorded from *Glossina pallidipes* puparia collected in Kenya, and agree with Waterston's original description of the species in 1915. In the second tube, the females had antennae with fuscous funicle segments but the clubs were white. These "white clubbed" females emerged from *G. morsitans* puparia from Tanganyika and had been in culture for more than a year. There is no mention of this striking character in any of the literature concerning *Syntomosphyrum glossinae*, even though both types are represented in collections at the London School of Hygiene and Tropical Medicine and at the British Museum. The taxonomic status of these two forms is not yet known.

Mr. Saunders said, in reply to an enquiry by Professor Varley, that steps were being taken to see if the males and females of the two different types interbred.

**Dr. H. E. Hinton** made a communication on the larva-pupa moult in the genus *Simulium*. The moult occurred long before the larval cuticle was shed and the pupa fed and grew for several days before it spun its cocoon. When *Simulium ornatum* Meig. is bred at 10-13° C., the pupal cuticle is thick and distinct 100 hours before the larval cuticle is shed. At this time the pupa makes use of many structures of the now dead larval cuticle (prolegs, mouth-parts, etc.) to which it is only mechanically connected. A slide was shown of the way in which the tonofibrillae of the muscles extend through the new pupal cuticle and remain attached to the old larval cuticle. It was by means of such connections that the pupa manipulated structures of the larval cuticle. The cocoon is usually spun by the pupa about one hour before the larval cuticle is shed. Muscle connections to the larval prolegs persist up to three to four minutes before the larval cuticle is shed. One or two minutes before it is shed, the pupa for the first time assumes the typical "humped" shape of later pupal life, and the mouth and anus are closed at this time. These findings were discussed in relation to the well known fact that in many endopterygotes the pupal stage has its own mid-gut epithelium which is not carried over into the adult stage.



The President pointed out that accounts of phenomena of this kind depend upon definitions. Professor Varley agreed and said that it was a pity if terms long used have to be neglected because it is impossible to decide the stage without dissection.

Dr. Hinton said that in the moth *Ephesia* the larva spins the pupal cocoon, but in *Simulium* the pupa spins the cocoon. This was a real difference, not merely a matter of definition. No suggestion had been made that well-known terms should be neglected, but only that such terms should be applied a little more critically. For instance, if one were to accept the argument of Professor Varley, the pupa and early part of the adult stage of the Diptera-Cyclorrhapha would have to be called larvae because they were always found within the modified cuticle of the third instar larva.

The President said that, as noted by Dr. Hinton in *Simulium*, some species of dipterous larvae, in practice, had legs, instancing *Atherix*.

Dr. Lewis pointed out that *Simulium damnosum* could survive the dry season in Africa in the pupal stage, to which Dr. Hinton replied that these might be adults within the pupal cuticle.

**Mr. Dennis Leston** exhibited fifth instar larvae of *Saldula saltatoria* (L.) and *Micracanthia marginalis* ssp. *imitator* Linnav. (Hemiptera, Saldidae), demonstrating a hitherto unreported paired organ in the abdomen. The cuticle is raised into a small, thin dome lying close by and medially to the spiracle of abdominal sternum III; the dome has a single external pore. Beneath the dome is a thin but sclerotised plate, perhaps embedded within a membrane, from which a short thick rod projects anterolaterally. Examination of macerated material suggests a superficial likeness to a tympanal or a hydrostatic organ but nothing known of the biology of the two species supports the "need" for either type of receptor. Only the two species had been examined; the organs are absent from adults.

[Since this exhibit was made, a paper has appeared by Cobben (1957, *Ent. Ber., Amst.* 17 : 250), in which the same organ has been found in larvae of *Saldula*, *Micracanthia* and *Chartoscirta*.]

Mr. G. G. E. Scudder added that he had looked for and found the organs mentioned by Leston in larvae of *Teloleuca*.

Dr. Hinton asked if these domes were present in adults, to which Mr. Leston replied that only fourth and fifth instar larvae had been examined, and that they occurred only in some Saldidae and not in the entire family.

**Mr. B. J. Selman** exhibited a collection of photo-micrographs of the blood of the Alder fly, *Sialis lutaria* L., taken by using a Cooke phase contrast microscope. The micrographs were chiefly of interest in showing something of the variety that can be found in the blood cells of one species of insect, and the variety of shapes and processes that can occur in a single type of cell.

The President asked whether the blood cells retained their shape for a long time, to which Mr. Selman replied that they clotted in under 20 minutes, but not all of the same type of cell behaved in the same manner.

The President then asked how many types of blood cells had been described, to which Dr. Hinton replied that Yeager had described 10 classes and 32 kinds of blood cells.

Mr. Selman said that many different types of blood cells had been described using fixed material, but *in vivo* studies showed that they could all be assigned to a few categories, according to function.

In reply to an enquiry by Mr. Leston, Mr. Selman said that he had found confirmation of Gregoire's theory of the four different methods of clotting.

**Mr. J. C. Hartley** exhibited specimens of *Ptinus tectus* Boield. and *Niptus hololeucus* Fald. found feeding in a packet of domestic tartaric acid. Some beetles had been found right inside the acid. No larvae or exuviae had been found in the packet.

The President pointed out that insects often infested substances which had no value as food or for breeding and said that during the war he knew of a complaint of rayon stockings being infested with beetles. It was discovered that the van in which the stockings were transported was normally garaged in a shed, above which the beetles bred, and that they had infested the van.

The President also said that the larvae of carpet beetles, which breed in dead rats and birds, made their way into houses and pupated in carpets. Dr. Hinton disagreed, saying that this was sometimes true of *Dermestes* but not of carpet beetles (*Anthrenus* and *Attagenus*). Carpet beetles actually feed as larvae upon woollen materials in houses, although they are also found in birds' nests.

E. B. BRITTON, *Honorary Secretary.*

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The next meeting (Annual Meeting) will be held on 5th February at 5.30 p.m.

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#### ADDITIONS TO THE LIBRARY.

##### *Presented.*

*Bulletin of the California Insect Survey.* 8vo. Berkeley & Los Angeles: Univ. California Pr.:

Vol. 6, no. 1. *The typical Muscid flies of California:* B. F. Eldridge and M. T. James. 1957.

Vol. 6, no. 2. *The Conopid flies of California:* S. Camras and P. D. Hurd. 1957.

Vol. 6, no. 3. *The Embioptera of California:* E. S. Ross. 1957. [The Publishers.]

Rehn, J. A. G. *The grasshoppers and locusts (Acridoidea) of Australia.* Vol. 3. 8vo. Melbourne: C.S.I.R., 1957. [The Publishers.]

Zimmerman, E. C. *Insects of Hawaii.* Vol. 6. *Ephemeroptera-Neuroptera-Trichoptera, & Suppl. to Vols. 1-5.* 8vo. Honolulu: Univ. Hawaii Pr., 1957. [The Publishers.]

##### *Purchased.*

Abot, G. *Catalogue des Coléoptères observés dans le Département de Maine-et-Loire.* 8vo. Paris: Lechevalier, 1928.

Balachowsky, A. S. *Les Cochenilles du Continent africain noir.* Vol. 1. *Aspidiotini* (1ère partie) 8vo. Tervuren, 1956. [*Ann. Mus. Congo Belge* (N.S.) 4to. (Sci. Zool.) Vol. 3.]

Börner, C. *Europae Centralis Aphides. Die Blattläuse Mitteleuropas.* 2 Lief. 8vo. Weimar, 1952. [Schr. Thüring-LandArbGemeinsch. Heil-pflanzenk, Weimar 4. (Mitt. Thüring bot. Ges. Beih. 3).]



- Bourgeois, J., & Scherdlin, P. *Catalogue des Coléoptères de la Chaîne des Vosges*. 9 Pt., 2 Suppl. 8vo. Colmar : Decker, 1898-1920.
- Bradley, J. C. *The classification of insects*. vol. 1. rev. ed. 8vo. Ithaca, N.Y. : Cornell Univ. Pr., 1946. [Typescript.]
- Brauer, A. ed. *Die Süßwasserfauna Deutschlands*. 2A *Diptera*, von K. Grünberg. Teil 1. 8vo. Jena : Gustav Fischer, 1910.
- Brinck, P. *A revision of the Gyrinidae (Col.) of the Ethiopian region*. Vol. II. 8vo. Lund : Gleerup, 1956. [Lunds Univ. Arsskr. (N.F.) Avd. 2 Bd. 52 Nr. 14 (*Acta Univ. Lund* (N.F.) Bd. 67 Nr. 14).]
- Buchner, P. *Endosymbiose der Tiere und Pflanzlichen Microorganismen*. 8vo. Basel : Birkhauser, 1953. [Lehrbücher u. Monographien aus dem Gebiete der exakten Wissenschaften (Experimentellen Biologie) Bd. 12.]
- Chauvin, R. *Physiologie de l'insecte*. (1949.) 2me éd. 8vo. Paris : Inst. nat. Recherche agronomique, 1956.
- Cheesman, L. E. *Things worth while*. 8vo. London : Hutchinson, 1957.
- Dahl, F. ed. *Die Tierwelt Deutschlands*. 43. *Steinfliegen oder Plecoptera*, von J. Illies. 8vo. Jena : Gustav Fischer, 1955.
- Fitter, R. S. R., & Lousley, J. E. *The natural history of the City*. 8vo. Corporation of London, 1953. [Pamphl.]
- First International Symposium on the control of insect vectors of disease*. 8vo. Roma : Fondazione E. Paterno ; London : Blackwells, 1954. [Rendiconti Ist. superiore di Sanità. Suppl.]
- Lorenz, H., & Kraus M. *Die Larvalsystematik der Blattwespen*. 8vo. Berlin : Akademie Verlag, 1957. [Abh. z. Larvalsystematik der Insekten. Nr. 1.]
- Nicholson, E. M. *Britain's Nature Reserves*. 8vo. London : Country Life, 1957.
- Ramdohr, K. A. *Abhandlungen über die Verdauungswerkzeuge der Insekten*. 8vo. Halle, 1811.
- Stichel, W. *Illustrierte Bestimmungstabellen der Wanzen*. II *Europa*. (*Hemiptera Heteroptera Europae*) Hft. 21. 8vo. Berlin-Hermsdorf, 1957.
- Wynter-Blyth, M. A. *Butterflies of the Indian region*. 8vo. Bombay : Bombay Nat. Hist Soc., 1957.

In addition, separates have been presented by the University of Queensland Dept. of Entomology ; Dr. J. L. Cloudsley-Thompson ; Professor K. Tsuneki ; Los Angeles County Museum ; Mr. E. B. Basden ; Lt.-Col. F. C. Fraser ; Mr. R. F. Bretherton, C.B. ; Dr. H. B. D. Kettlewell ; Mr. M. Niblett ; Mr. R. A. French ; Entomology Laboratory, Belleville, Ontario ; Dr. A. C. Sen ; Nature Conservancy ; United States Dept of Agriculture ; Dr. H. Cleu and Mr. P. M. Miles.

## NOTICES

In addition to the *Transactions and Proceedings* (Series A, B, and C), the following publications are available on application at the Society's rooms:—

THE GENERIC NAMES OF BRITISH INSECTS, WITH CHECK LISTS OF THE SPECIES, prepared by the Committee on Generic Nomenclature of the Royal Entomological Society of London with the assistance of the Department of Entomology of the British Museum (Natural History):—

Part I. Recommendations relating to the publication of the Committee's Reports										Price	6d.
„	2.	Rhopalocera	..	..	..	..	..	..	..	„	3s. 6d.
„	3.	Odonata	..	..	..	..	..	..	..	„	3s. 6d.
„	4.	Neuroptera	..	..	..	..	..	..	..	„	3s. 6d.
„	5.	Hymenoptera Aculeata	..	..	..	..	..	..	..	„	15s. 0d.
„	6.	Coleoptera Carabidae	..	..	..	..	..	..	..	„	10s. 0d.
„	7.	Coleoptera Hydradeephaga	..	..	..	..	..	..	..	„	5s. 0d.
„	8.	Hemiptera Heteroptera	..	..	..	..	..	..	..	„	39s. 0d.
„	9.	Coleoptera Staphylinidae	..	..	..	..	..	..	..	„	40s. 0d.

### HANDBOOKS FOR THE IDENTIFICATION OF BRITISH INSECTS.

The Society has undertaken the issue of a series of publications intended to provide illustrated Keys to the whole of the British Insect Fauna so far as this is possible.

It is proposed to cover this field in a series of ten volumes, arranged as follows:—

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| <p>I. Part 1. General Introduction.</p> <p>„ 2. Thysanura.</p> <p>„ 3. Protura.</p> <p>„ 4. Collembola.</p> <p>„ 5. Dermaptera and Orthoptera.</p> <p>„ 6. Plecoptera.</p> <p>„ 7. Psocoptera.</p> <p>„ 8. Anoplura.</p> <p>II. Hemiptera.</p> <p>VI. Hymenoptera : Symphyta and Aculeata.</p> <p>VII. Hymenoptera : Ichneumonoidea.</p> <p>VIII. Hymenoptera : Cynipoidea, Chalcidoidea and Serphoidea.</p> <p>IX. Diptera : Nematocera and Brachycera.</p> | <p>Part 9. Ephemeroptera.</p> <p>„ 10. Odonata.</p> <p>„ 11. Thysanoptera.</p> <p>„ 12. Neuroptera.</p> <p>„ 13. Mecoptera.</p> <p>„ 14. Trichoptera.</p> <p>„ 15. Strepsiptera.</p> <p>„ 16. Siphonaptera.</p> <p>III. Lepidoptera.</p> <p>IV and V. Coleoptera.</p> <p>X. Diptera : Cyclorrhapha.</p> |
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The following parts are now available:—

- Vol. I, Part 2. Thysanura and Diplura. By M. J. Delany. Price 2s. 6d. plus postage.
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